REMARKS

After entry of this Amendment, claims 1-8, 11-20, and 22-23 are pending in the application. Claim 21 has been cancelled without prejudice. New claim 23 has been added. Reconsideration of the application as amended is requested.

In the Office Action dated December 9, 2004, claims 19-21 stand rejected under 35 U.S.C. §102(b) as being anticipated by O'Farrell et al (U.S. Patent No. 4,973,844). Claim 19 has been amended to more particularly point out and distinctly claim the radiation source being spaced from the windshield to a location outside a field of vision of a driver of the vehicle and aligned in such a way that optical rays from the radiation source strike the windshield in an area of the field of vision, and the beam receiver being spaced from the windshield to a location outside the field of vision of the driver and pointed at the area of the windshield struck by the optical rays from the radiation source. This specific structural configuration previously being recited in claim 1 and having antecedent basis in the original specification at paragraph [0006] through paragraph [0009]. As specifically indicated in the background and the summary of the invention of the present application, the present invention is specifically directed to a method of construction which no longer requires flush-mounting of the device on the windshield. Therefore, the flush-mounted device as disclosed in O'Farrell et al (U.S. Patent No. 4,973,844); Teder (U.S. Patent No. 6,262,407); Koyama et al (U.S. Patent No. 6,285,037); Hochstein (U.S. Patent No. 4,798,956); and Breed et al (U.S. Patent No. 5,845,000) are considered to be non-analogous art. It is also noted that the Teder U.S. Patent No. 6,262,407 is not appropriately considered to be a prior art reference, since the priority claim of the present application claims priority from November 28, 1998, predating the December 31, 1998 filing date of the cited reference.

It is respectfully submitted that the Examiner's reliance on the non-analogous art of O'Farrell et al, Hochstein, Koyama et al, Teder, and Breed et al is inappropriate. In particular, one skilled in the art of remotely mounted dual surface particle identifying devices would not search or have knowledge of flush mounted single surface moisture sensing devices. The determination of when arts are analogous depends on the necessary essential features or utility of the subject matter covered by the claims and not what it is called. (See Manual of Patent Examining Procedure §904.01 (c)). When the proposed combination of references involves material modifications of the basic form of one article in view of another, the nature of the articles involved is a definite factor in determining whether the proposed change involves invention. See *In re Glavast*, 109 USPQ 50 (CCPA 1956) and MPEP

§1506. The function of the present invention, mainly a remotely mounted dual surface particle identifying device for automotive windshields, is not the same as a flush-mounted single surface moisture sensing device as disclosed in the O'Farrell et al, Hochstein, Koyama et al, and Teder references, or the interior occupant monitoring system and exterior object monitoring system of Breed et al. For resolution of obviousness under 35 U.S.C. §103, the law presumes full knowledge by the hypothetical worker having ordinary skill in the art of all the prior art in the inventors' field of endeavor. With respect to the present application, the appropriate field of endeavor is the remotely mounted dual surface particle identification system art. With regard to prior art outside the inventors' field of endeavor, knowledge is presumed only as to those arts reasonably pertinent to the particular problem with which the inventor was involved. See *In re Clay*s, 966 F.2d 656, 23 USPQ2d 1058 (Fed. Cir. 1992), *In re Wood*p, 599 F.2d 1032, 202 USPQ 171 (CCPA 1979), *In re Antle*e, 444 F.2d 1168, 170 USPQ 285 (CCPA 1971). In the present application, the inventors were concerned with remotely mounted dual surface particle identification systems. Following *Clay* and *Wood*, the determination that a reference is from a non-analogous art is two fold. First, it must be decided if the reference is from within the inventors' field of endeavor. If it is not, then it must be determined whether the reference is reasonably pertinent to the particular problem involved. The O'Farrell et al, Hochstein, Koyama et al, and Teder references discloses flush mounted single surface moisture sensing devices, while the Breed et al reference discloses interior occupant monitoring and exterior object monitoring system. The O'Farrell et al, Hochstein, Koyama et al, Teder, and Breed et al references do not relate to the remotely mounted dual surface particle identification systems art. The O'Farrell et al, Hochstein, Koyama et al, Teder, and Breed et al references are not reasonably pertinent to the particular problem involved in the present application, since the present application is concerned with remotely mounted dual surface particle identification systems, while the O'Farrell et al, Hochstein, Koyama et al, and Teder references are concerned with flush mounted single surface moisture sensing devices, while the Breed et al reference is concerned with interior occupant monitoring and exterior object monitoring systems. It is respectfully submitted that the O'Farrell et al, Hochstein, Koyama et al, Teder, and Breed et al references are non-analogous art, and therefore cannot be properly combined with the other references as suggested by the Examiner in the current Office Action. Reconsideration and withdrawal of the Examiner's final rejection is respectfully requested.

In addition, it is respectfully submitted that, if this reference is considered to be analogous art, the combination of references, taken singularly, or in any permissible combination does not anticipate, teach or suggest the present invention as set forth in the claims. In particular, the O'Farrell reference fails to anticipate, teach or suggest the radiation source positioned spaced from the windshield to a location outside a field of vision of a driver of the vehicle and aligned in such a way that optical rays from the radiation source strike the windshield in an area in an area of the field of vision, and/or the beam receiver spaced from the windshield to a location outside the field of the vision of the driver and pointed at the area of the windshield struck by the optical rays from the radiation source. The problems associated with the O'Farell et al reference are clearly set forth in the background of the present application, which points out the disadvantages of this flush-mounted single surface moisture sensing configuration as addressed by the present invention as set forth in the pending claims. Reconsideration of the Examiner's rejection of claims 19-21 as being anticipated by the O'Farell et al reference is requested.

Claims 1-6, 8-9, 12, and 17 stand rejected under 35 U.S.C.§103(a) as being unpatentable over Nakamura et al (U.S. Patent No. 4,636,643) in view of Hochstein (U.S. Patent No. 4,798,956). The Examiner states that Nakamura et al does not teach the single control unit selectively controlling at least one of an intensity, duration, and frequency of the first ray emitted by the radiation source and to perform the analysis including identifying a type of the particles, based at least in part, on the one of the previously controlled intensity, duration, and frequency of the first ray. The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to control the intensity, duration, or frequency of a ray from the radiation source and perform the analysis including identifying a type of the particles, based at least in part, on the intensity, duration, and frequency control as taught by Hochstein in the device of Nakamura et al, to provide enhanced recognition of windshield particle matter to provide additional functionality for the system and reduce the occurrences of false detection of particles. As previously indicated, the Hochstein reference is considered to be non-analogous art with respect to the present invention, and therefore cannot be properly combined with the Nakamura et al reference. Furthermore, as defined in the specification of the present application as originally filed, particles as used in the application and in the claims particles are understood to be both drops of liquid (e.g., vapor, rain, etc.) as well as small solid particles (e.g., dust, grains of sand, ice crystals, snow, hail, etc).

(See paragraph [0002] of the specification of the present application). Therefore, while the Nakamura et al reference is capable of detecting vapor condensed to fine particles of water as asserted by the Examiner according to Merriam-Webster's Dictionary, this does not teach or suggest any capability of identifying particles as defined in the present invention including dust, dirt, snow, hail, or the like, in addition to vapor condensed to fine particles of water. The Nakamura et al reference does not teach or suggest a single control unit for identifying a type of the particles as recited in claim 1 and its dependent claims. In other words, identifying any unknown type of particle is on the windshield surface is different and distinct from being able to identify the type of particle (i.e. dust, dirt, water, fog, snow, hail). Different types of particles will require different responses by the other vehicle systems. For example, identification of dirt or dust on the windshield would appropriately be responded by operation of the spray system in combination with the windshield wipers. However, detection of water droplets on the windshield during a rain shower should result in a different response by the vehicle systems based on the signal to be generated by the single control unit. In the present invention, a different signal can be sent to operate the windshield wipers in the absence of spraying cleaning fluid under such circumstances. The Nakamura et al reference is incapable of distinguishing between the two different types of particles given as examples. Even if the Hochstein reference is considered to be analogous art, the addition of the Hochstein reference does not overcome the deficiency of the Nakamura et al reference. In particular, the Hochstein reference indicates that the support means 22 must be mounted within the wiped area 34 of the wiper blades, preferably in an unobtrusive location in order not to interfere with sight of the driver. The present invention is specifically directed to a radiation source positioned outside the field of vision of a driver of the vehicle and aligned in such a way that the light rays from the radiation source strike the windshield in the area of the field of vision. Accordingly, the Hochstein reference being a flush mounted single surface moisture sensing device suffers from the disadvantages and problems as described in detail in the background of the present application. While the Hochstein reference indicates that dirt or dust collecting on the outside surface of the window, an absence of water, will cause the proportional signal to increase rather than decrease (see column 8, lines 15-17), the reference does not teach or suggest distinguishing or even sensing particles on the inside surface of the windshield. Neither Nakamura et al nor Hochstein anticipate, teach or suggest, taken singularly or in any permissible combination, the ability to remotely detect and identify the type of particles located on a dual surface as claimed in the present application.

Reconsideration of the Examiner's rejection of claims 1-6, 8-9, 12, and 17 is requested.

Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Nakamura et al in view of Hochstein, and further in view of Koyama et al (U.S. Patent No,. 6,285,037). As previously indicated, the Hochstein and Koyama et al references are considered to be non-analogous art with respect to the present invention. Even if they are considered to be analogous art, the combination of references do not anticipate, teach or suggest, taken singularly or in any permissible combination a remotely mounted dual surface particle identifying system as set forth in claim 7. In particular, the addition of Koyama et al to the combination of Nakamura et al in view of Hochstein does not overcome the deficiencies of those references. The Koyama et al reference is also a flush mounted single surface moisture sensing device. The reference teaches the detection of liquid drops on the external surface of the windshield, but does not address, and is incapable of detecting liquids or other particles on the inner surface of the windshield. Further, none of the cited references teach or suggest the ability of differentiating between dirt, dust, snow or hail which is not in the form of liquid water droplets. Therefore, the references taken singularly or in any permissible combination fail to anticipate, teach or suggest the ability of identifying a type of particle when at least a portion of the first ray is received by the photo detector based at least in part on the at least one of the previously controlled intensity, duration and frequency of the first ray, and/or the ability to determine whether the detected particle is on the inner surface or outer surface of the windshield. Reconsideration of the Examiner's rejection of claim 7 is requested.

Claim 11 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Nakamura et al in view of Hochstein and further in view of Breed et al (U.S. Patent No. 5,845,000). The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to place the device of Breed et al by an interior light module in the vehicle as taught by Breed et al and integrate it with the interior light module in the device of Nakamura in view of Hochstein to provide the device with direct visual access to the windshield in the area of the field of vision and out of the field of vision of the driver of the vehicle and to improve the durability and assembly ease of the device. It is submitted that the Breed et al reference is non-analogous art for the reasons given above. Even if the Breed et al reference is considered to be analogous art, it cannot be properly combined in the manner as asserted by the Examiner. In particular, the Breed et al reference teaches

monitoring occupants inside the vehicle and/or monitoring objects external to the vehicle. The Breed et al reference does not teach or suggest monitoring particles located on a surface of the windshield. As illustrated in Figure 1D, the Breed et al reference illustrates the wave pattern from an optical system using an infrared light source and a CCD array receiver where the CCD array receiver is covered by a fisheye lens permitting a wide angle view of the contents of the passenger compartment. Figure 8 of the Breed et al reference illustrates a sensor for sensing the headlights of an oncoming vehicle and/or the tail lights of a leading vehicle used in conjunction with an automatic headlight dimming system. Therefore, the reference fails to teach or suggest the ability to combine a remotely mounted dual surface windshield particle identification system as set forth in the claims of the present invention. Reconsideration of the Examiner's rejection of claim 11 is requested.

Claim 14 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Nakamura et al in view of Hochstein and further in view of O'Farrell et al. As previously indicated, the Hochstein reference and the O'Farrell et al references are considered to be non-analogous art. Even if they are considered to be analogous art, the combination of references taken singularly or in any permissible combination, do not anticipate, teach or suggest the invention as recited in claim 14. The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the device with a windshield cleaning system as taught by O'Farrell in the device of Nakamura et al in view of Hochstein to permit automatic windshield cleaning upon necessity without driver intervention. As previously indicated, the Hochstein and O'Farrell references are flush mounted single surface moisture sensing devices and as such are incapable of operably engaging a windshield cleaning system from a remotely mount location as set forth in the claims of the present application. Reconsideration of the Examiner's rejection of claim 14 is requested.

Claim 16 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Nakamura et al in view of Hochstein and further in view of Stam et al (U.S. Patent No. 5,923,027). The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made for the light emitting diode to emit different wavelengths as taught by Stam et al in the device of Nakamura et al in view of Hochstein to provide improved detection according to the specific absorption characteristics of the windshield as taught by Stam et al. It is submitted that the Hochstein reference is non-analogous art with respect to the Nakamura et al reference and Stam et al reference. Therefore, the combination with Hochstein is

considered to be improper. Even if Hochstein is considered to be analogous art, the addition of the Stam et al reference does not overcome the deficiencies of the combination of Nakamura et al in view of Hochstein. In particular, the Stam et al reference discloses a moisture sensor and a windshield fog detector using an image sensor. The Stam et al system is adapted to detect the level of fog both on the interior of the windshield as well as the exterior of the windshield. Nakamura et al teaches the rearview mirror module and expressly states that the infrared emitting means 1 and the infrared receiving means 5 are located opposed to each other. Neither Nakamura et al nor Stam et al which purportedly detect fog and moisture, respectively, teach or suggest a control unit operably associated with a windshield cleaning system of the vehicle such that the windshield cleaning system is activated when the control unit detects dust or dirt on the windshield. Neither system detects dirt. Further, Stam et al does not activate a windshield cleaning system when it detects dirt on the windshield. Stam et al is a moisture detector. As such, it activates wipers 40 when detecting moisture caused by various things. (See also Figure 5, numeral 54). A windshield cleaning system also includes a cleaner, which is not activated by Stam et al. The Examiner states that a visible LED is taught by Stam et al an inherently possesses a plurality of wave lengths within a visible spectrum range. The Examiner does not sight a reference to prove this "inherent" feature. The applicant respectfully requests a citation in accordance with MPEP §2144.03 showing that a visible LED has the feature asserted by the Examiner. Reconsideration of the Examiner's rejection of claim 16 is requested.

Claim 13 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Nakamura et al in view of Hochstein and further in view of Hegyi (U.S. Patent No. 5,703,568). The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the superordinate control unit over a bi-directional data bus of Hegyi with the device of Nakamura et al in view of Hochstein to provide feedback for other vehicle functions and enable the activation and deactivation of the device. It is again submitted that the Examiner has misunderstood the teachings of Hegyi. The top control 46 is not a super ordinate control unit, and Hegyi does not appear to teach or suggest such a feature. The top control 46 controls a convertible top of a vehicle. (See Hegyi, column 3, lines 65-67). For this reason, it is again submitted that claim 13 is allowable over the prior art of record. Reconsideration of the Examiner's rejection of claim 13 is requested.

Claim 15 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Nakamura et al in view of Hochstein, and further in view of Schofield et al WO 99/23828. The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a CCD image converter as the photo detector as taught by Schofield et al in the device of Nakamura et al in view of Hochstein to provide imaging means for more accurate detection of the existence of particles on the windshield. As previously indicated, the Hochstein reference is considered to be non-analogous art with respect to the present invention. However, even if Hochstein is considered to be analogous art, the combination of references does not anticipate, teach or suggest the invention as recited in claim 15. In particular, the Schofield et al reference teaches a rain sensor system capable of preventing false signals of rain when only fog is present on an interior surface on the window, but allows the rain sensor system to detect fog particles on an interior surface of the window thereby allowing the control to further be connected to a ventilation blower within the vehicle for the purpose of activating the blower to eliminate the fog on the interior surface of the window. However, neither the Nakamura et al nor the Schofield et al reference, which purportedly detect fog and moisture, teach or suggest control units operably associated with a windshield cleaning system of the vehicle such that the windshield cleaning system is activated when the control unit detects dirt on the windshield. Neither the Nakamura et al nor the Schofield et al reference detects dirt. Further, neither the Nakamura et al nor the Schofield et al reference activated windshield cleaning system when dirt is detected on the windshield. The Schofield et al reference is a moisture detector. As such, it activates wipers when detecting moisture caused by various things, or it activates a ventilation blower when fog is detected on an interior surface of the window. Reconsideration of the Examiner's rejection of claim 15 is requested.

Claim 17 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Nakamura et al in view of Hochstein and further in view of Teder. It is submitted that the Teder reference is not prior art with respect to the present invention, since the present invention claims priority back to November 28, 1998, and the Teder reference has a filing date of December 31, 1998. In addition, it is submitted that the Hochstein and Teder references are non-analogous art with respect to the present invention for the reasons given in detail above. Reconsideration of the Examiner's rejection of claim 17 is requested, or a further explanation of the reason for the applicability of the Teder reference with respect to the present patent application is requested.

Claim 18 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Nakamura et al in view of Hochstein and further in view of Breed et al. The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to position the light emitting diode so the optical ray strike the windshield at a similar angle with respect to a drivers line of sight as taught by Breed et al in the device of Nakamura et al in view of Hochstein to prevent the lights from interfering with the drivers view of the windshield and hampering his or her driving abilities. As previously discussed in detail, it is submitted that the Hochstein and Breed et al references are non-analogous art with respect to the present invention. In addition, the Breed et al reference does not teach positioning a light emitting diode such that optical ray strike a windshield at a similar angle with respect to the drivers line of sight for detecting the types of particles on an interior surface or exterior surface of a windshield. Reconsideration of the Examiner's rejection of claim 18 is requested.

Claim 22 stands rejected under 35 U.S.C. §103(a) as being unpatentable over O'Farrell et al in view of Hochstein. The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the radiant source, the beam receiver and the control unit mounted with an interior light module in the vehicle with the teaching of Hochstein in the device of O'Farrell et al to enable visual access to the windshield without interfering with the visual acuity of the driver and to provide additional illumination for the convenience of the front vehicle passengers. As previously discussed in detail, it is submitted that the O'Farrell et al and Hochstein references are non-analogous art with respect to the present invention. As such, application of the references in rejecting claim 22 of the present application is improper. O'Farrell et al and Hochstein both teach flush mounted single surface moisture sensing devices that are incapable of detecting different types of particles as required in the claims of the present application. Reconsideration of the Examiner's rejection is requested.

Claim 21 has been cancelled without prejudice. New claim 23 has been added in this application for the Examiner's consideration. Claim 23 incorporates various elements previously recited in pending claims of the present application. It is submitted that the combination of elements recited in new claim 23 is not anticipated, taught or rendered obvious by any of the cited references of the Examiner. The Examiner's consideration of new claim 23 is requested.

At best, the prior art references show components in bits and pieces of the inventive arrangement as claimed in the independent claims. The relevant art

recognizes many components and concepts within its domain. Upon close investigation and scrutiny of the diverse practices in this art and its peripheral technical fields of endeavor, a fact-finder is inevitably led to the conclusion that artisans can and could produce a myriad of devices and functions of apparently endless diversity from components and concepts already individually recognized as belonging to the prior art. Such speculation must not cloud the standards for the evaluation of patentability over the prior art under 35 U.S.C. §§ 102 and 103. Properly focused, the issues center on what would have been anticipated, or obvious to one of ordinary skill in the art at the time of the invention. Obviousness is tested by what the combined teaching of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). But it cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. See *ACS Hosp. Sys. Inc. V. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). And teachings of references can be combined only if there is some suggestion or incentive to do so. See *In re Fine*, 837 F.2d 1071, 5 USPQ 2d 1596, 1599 (Fed. Cir. 1988). Approaches to obviousness determinations which focus merely on identifying and tabulating missing elements in hindsight retrospect imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, and, fall victim to the insidious effect of hindsight syndrome wherein that which only the inventor taught is used against its teacher. *W. L. Gore & Assoc. V. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 312-3 (Fed. Cir. 1983). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 5 USPQ 2d at 1600.

This after final amendment: (1) does not raise new issues that would require further consideration and/or search, since the proposed amendments incorporate previously recited limitations from dependent claims into the independent claims and these limitations have been previously considered and searched by the Examiner; (2) does not raise the issue of new matter, since the proposed amendments have support in the originally filed application including the specification, claims and drawings; (3) does places the application in better form for appeal by materially reducing and/or simplifying the issues for appeal; and/or (4) does not present additional claims without cancelling a corresponding number of finally rejected claims. The after final amendment was necessitated due to the Examiner's reliance on the

newly cited reference to O'Farrell et al, Hochstein, and Schofield et al. This amendment could not have been earlier presented, since the Examiner had not relied on the O'Farrell et al, Hochstein, or Schofield et al references previously, so this is Applicant's attorney's first opportunity to address the Examiner's rejection based on this reference.

It is respectfully submitted that this Amendment traverses and overcomes all of the Examiner's objections and rejections to the application as originally filed. It is further submitted that this Amendment has antecedent basis in the application as originally filed, including the specification, claims and drawings, and that this Amendment does not add any new subject matter to the application. Reconsideration of the application as amended is requested. It is respectfully submitted that this Amendment places the application in suitable condition for allowance; notice of which is requested.

If the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,

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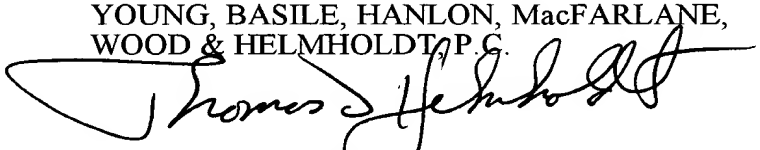

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